The Restoration Initiative

2020 YEAR IN REVIEW

THE RESTORATION INITIATIVE

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Foreword

Doubling down on restoration

It is an understatement to say that 2020 has been a uniquely challenging year. While increasing availability of Covid-19 vaccines provide some promise that the now year-long pandemic may finally be coming to an end, it is clear that this disaster will have far-reaching impacts on our economies, cultures, and the natural world we share. And it is heartening to see increasing numbers of world leaders pledging that our response to this crisis must also address the underlying causes of the pandemic, including the need to restore, "build back better," and protect the natural systems that sustain all life.

That is why initiatives like *The Restoration Initiative (TRI)* are so important, and why we are happy to present this second annual, ***TRI 2020 Year in Review***. Inside you will find stories and experiences from the past year of people working on the front lines of restoration – partners in this path-breaking Global Environment Facility (GEF) programme supporting ten Asian and African countries in achieving shared restoration goals.

Political will and commitments for restoration continue to build, as seen in rising commitments to the Bonn Challenge call to bring 350 million hectares under restoration by 2030, and the launch of the UN Decade on Ecosystem Restoration (2021–2030). But the world needs more than commitments – it needs solutions, examples, experiences, evidence, tools and inspiration. The events of the past year have put to rest the question of *why* we need restoration and shifted our focus to the question of *how* we achieve restoration at the scale needed to address the global challenges we face.

That is exactly what this flagship programme implemented by our three partnering GEF agencies is designed to address. Working in some of the most challenging places, TRI is building a body of evidence and experiences that will no doubt prove essential in helping to inform and catalyse restoration initiatives and efforts going forward. In Pakistan, for example, we see how the programme is supporting efforts to strengthen local forest management and provide incentives to restore and protect threatened chilgoza pine forests. From Cameroon comes a story of how one community leader, Mamma Salamatou, is helping to inspire other women in her rural community to become more involved in restoration work. And in the archipelago of Sao Tome and Principe, we learn how the project is working to support development of microcredit schemes to enable investment in restoration for small-scale farmers that have historically lacked access to credit and other financial services.

There is also good progress to report at the programme level. This past year saw the advancement of a number of exciting and potentially significant initiatives including an online course on forest landscape restoration (FLR) presented through partnership with Yale University, advancement of a new tool providing assessments of threatened species to better inform restoration and conservation measures, and a new mentorship programme developed by UNEP's Finance Initiative to support partners in developing restoration-based businesses and investment proposals.

These stories and more are described herein. We hope you find this work both inspiring and useful.

Chris Buss
Director, IUCN Forest Programme
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Deputy Director, Forestry Division
FAO

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UNEP

Coalition of partners

The Restoration Initiative (TRI) unites ten Asian and African countries and three Global Environment Facility agencies – the International Union for Conservation of Nature, the Food and Agriculture Organization of the United Nations, and the United Nations Environment Programme – along with national and local governments and a host of strategic partners in working to overcome existing barriers to restoration and restore degraded landscapes at scale, in support of the Bonn Challenge.

Founding partners

TRI is supported by the **Global Environment Facility (GEF)**. The initiative contributes to the GEF's commitment to assist developing countries in meeting the objectives of multilateral environmental agreements, including those on combating land degradation, mitigating climate change and halting biodiversity loss. GEF support for TRI is also enabling partner countries to deliver on commitments made to larger restoration initiatives, including the Bonn Challenge and AFR 100.

The International Union for Conservation of Nature (IUCN) serves as lead agency for TRI, providing programmatic coordination, integration, and harmonization of work across the 11 country projects, agencies, and partners. IUCN is also leading support for partnering countries in strengthening the enabling in-country policy environment for forest landscape restoration. IUCN is the implementing agency for four TRI national projects in Cameroon, China, Guinea-Bissau and Myanmar.

The Food and Agriculture Organization of the United Nations (FAO) leads support for partnering countries in the capture and dissemination of best practices on forest landscape restoration and in capacity building on a wide range of tools and topics integral to this subject. FAO is the implementing agency for five TRI national projects in the Central African Republic, the Democratic Republic of the Congo, Kenya's arid and semi-arid lands, Pakistan, and Sao Tome and Principe.

The United Nations Environment Programme (UNEP), through their UN Environment Finance Initiative, a 25-year public–private collaboration with a network of more than 300 financial institutions, supports partnering countries through technical assistance and capital markets connections in efforts to mobilize and catalyse domestic and external funding for large-scale restoration. UNEP is the implementing agency for two TRI national projects in the Kenya Tana Delta and the United Republic of Tanzania.

Executing and government partners

Nature Kenya (Kenya, Tana Delta)

Kenya Forestry Research Institute (Kenya, arid and semi-arid lands)

The International Network for Bamboo and Rattan (Cameroon)

Institute for Biodiversity and Protected Areas (Guinea-Bissau)

Ministry of Environment and Sustainable Development (Democratic Republic of the Congo)

Ministry of Agriculture and Rural Development, through the Directorate of Forests (Sao Tome and Principe)

Ministry of Natural Resources and Environmental Conservation, Forest Department (Myanmar)

Ministry of Climate Change (Pakistan)

Vice-President Office in partnership with the National Environment Management Council (United Republic of Tanzania)

Ministry of Environment, Sustainable Development, Water, Forestry, Hunting and Fisheries (Central African Republic)

National Forestry and Grassland Administration (People's Republic of China)

Additional partners

The Alliance – Bioversity International, (now together with the International Center for Tropical Agriculture (CIAT), The Alliance) provides technical support through the development of training modules and the facilitation of capacity development for national TRI project teams on forest genetic resources for forest landscape restoration.

ELTI – The Environmental Leadership & Training Initiative (ELTI) of Yale University is partnering with TRI to provide online training for TRI project teams on forest landscape restoration (FLR) fundamentals and approaches

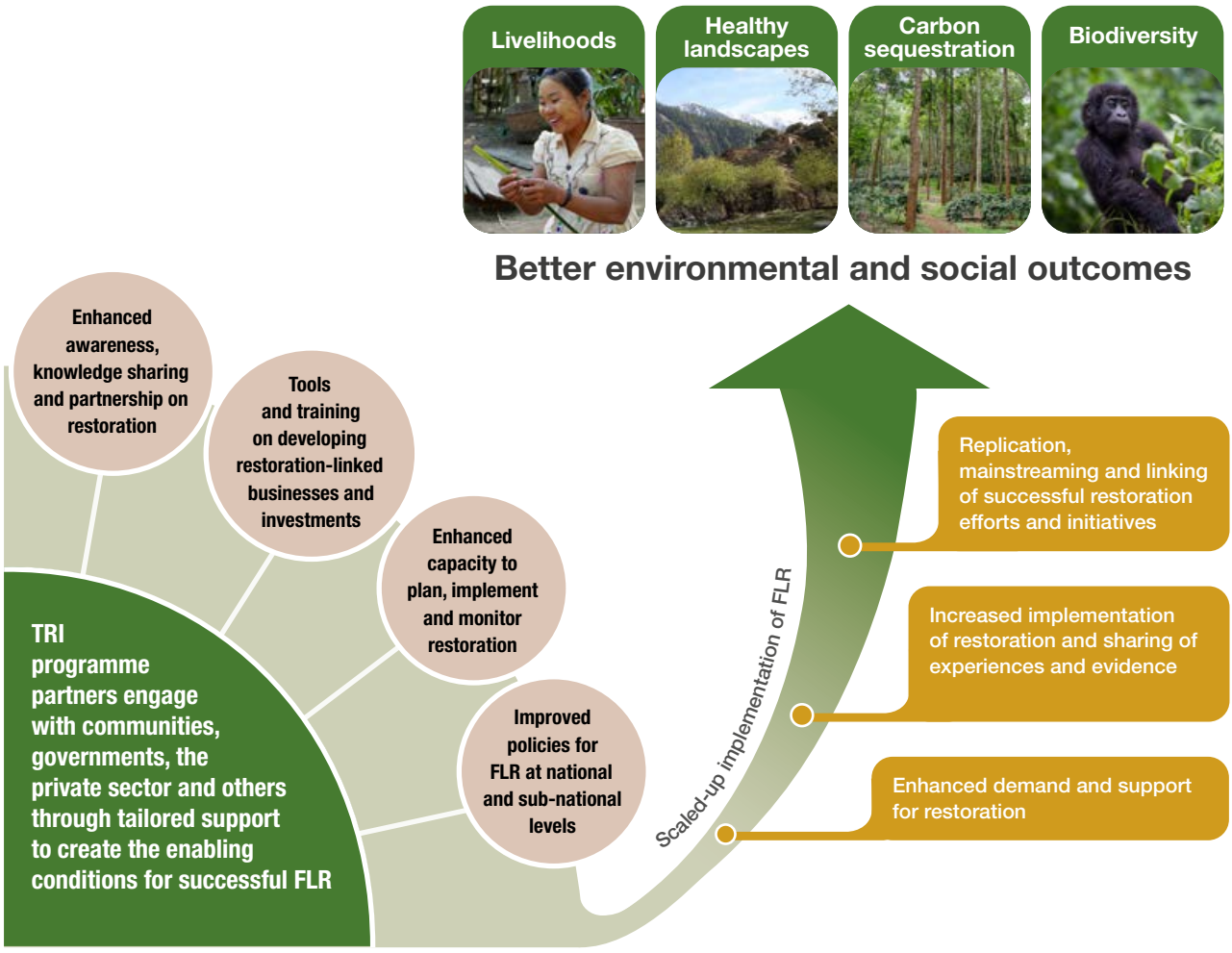
Newcastle University – Researchers at Newcastle University, in the United Kingdom of Great Britain and Northern Ireland, together with IUCN, are supporting development and piloting of the Species Threat Abatement and Recovery (STAR) metric – a new tool providing practitioners with enhanced information on the impacts of restoration actions on threatened biodiversity. The use of STAR is being piloted in five TRI projects: Cameroon, Central African Republic, Kenya (both projects) and Myanmar.

WRI – The World Resources Institute has supported TRI national projects in the Central African Republic, the Democratic Republic of the Congo and Kenya by conducting assessments on restoration needs and opportunities using the Restoration Opportunities Assessment Methodology.

Programme approach

Land degradation is one of the defining challenges of our time. Global estimates suggest that nearly 2 billion ha of agricultural land, pasture, forest and woodland are degraded.[1] Restoration of deforested and degraded lands is essential to addressing global challenges including climate change, biodiversity loss, and the need for healthy sustainable food systems and a thriving economy. TRI has been designed to address key and common barriers to expanded and scaled-up restoration. The programmatic approach leverages each partner agency's strengths and ongoing work on FLR while providing extensive opportunities for South-South knowledge capture and sharing.

The Restoration Initiative approach


Livelihoods
Healthy landscapes
Carbon sequestration
Biodiversity
Better environmental and social outcomes
Enhanced awareness, knowledge sharing and partnership on restoration
Tools and training on developing restoration-linked businesses and investments
Enhanced capacity to plan, implement and monitor restoration
Improved policies for FLR at national and sub-national levels
TRI programme partners engage with communities, governments, the private sector and others through tailored support to create the enabling conditions for successful FLR
Scaled-up implementation of FLR
Replication, mainstreaming and linking of successful restoration efforts and initiatives
Increased implementation of restoration and sharing of experiences and evidence
Enhanced demand and support for restoration

1 Gibbs, H.K. and Salmon, J.M. 2015. Mapping the world's degraded lands. *Applied Geography*, issue 57: 75-81 https://doi.org/10.1016/j.apgeog.2014.11.024

Key programmatic support

- Annual knowledge-sharing workshops and events
- Online community of practice and training opportunities
- Tailored support and training focused on mobilizing investment into FLR
- Development and piloting of new tools and approaches for restoration

TRI projects

Guinea-Bissau
Cameroon
Central African Republic
Kenya
United Republic of Tanzania
Democratic Republic of the Congo
Sao Tome and Principe
Pakistan
China
Myanmar
Implementing agency
IUCN
FAO
UNEP
Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.
THE RESTORATION INITIATIVE

Freepick, 2021. Earth-map-linear-composition. Available at https://www.freepik.com/free-vector/earth-map-linear-composition_9386670.htm#page=1&query=world%20map&position=1&from_view=search Accessed on 7 October 2021. Modified by author.

Programme funding

Program-level targets

Under restoration
483 245 ha

Under improved management
754 451 ha

GHG mitigation
30.4 million tCO2eq

Number of direct beneficiaries
287 239 people

Programme update

Progress update on implementation of The Restoration Initiative

2020 marks the completion of the second full year of implementation of TRI. Despite challenges from the Covid-19 global pandemic, 2020 was a year of progress on many fronts. Project participants took advantage of stay-at-home work requirements and other restrictions on movement to further develop many of the underlying analyses, policy recommendations and influencing strategies, and landscape restoration and management plans needed to facilitate FLR at project sites. In addition, global support partners further advanced development of new FLR tools, as well as capacity-building initiatives for TRI partners and the wider restoration community. All of this will allow on-the-ground FLR work to be accelerated in 2021 as Covid-linked restrictions are lifted and life begins a return to normalcy.

Programme-level highlights and progress in 2020

TRI-supported online course with Yale University to build capacity on FLR
TRI partnered with Yale University's Environmental Leadership and Training Initiative (ELTI) to develop and present an online course on FLR fundamentals for TRI project teams and partners in Africa. Addressing the need to efficiently and effectively build understanding and capacity on FLR, the course featured tailored content developed by agency partners and outside experts based on exchange with TRI project teams. Over 30 TRI stakeholders including 11 representatives from government ministries took part in the online course, with course materials archived and available for further dissemination.

Publication of the Species Threat Abatement and Recovery (STAR) metric
The methodology for STAR, the new tool for measuring the benefits to reducing threats to threatened species from site-based restoration and/or conservation measures, was published by the journal *Nature Evolution & Ecology*. Developed in part with TRI support and funding, STAR draws upon IUCN's comprehensive *Red List of Threatened Species* database to generate a science-based, comparable, and scalable measure that can help restoration and conservation practitioners better evaluate and design restoration and/or conservation interventions. The methodology is being applied in five pilot TRI landscapes in Cameroon, Central African Republic, Kenya, and Myanmar, with detailed assessments coming in 2021.

Two knowledge briefs – one on FLR-enabling policies and another on inter-institutional coordination mechanisms for FLR
were developed by the TRI global support project in response to demand from TRI child projects. The policy briefs are available on the TRI website for dissemination to the broader restoration community.

TRI featured in *Unasylva*
TRI is featured in a new, special edition of FAO's *Unasylva* journal of forestry focused on restoration. A follow-up to an earlier, 2015 issue on restoration, issue No. 252, "Restoring the Earth – The next decade," showcases FLR opportunities and recent developments that have the power to upscale restoration and support achievement of the Bonn Challenge and associated sustainable development goals. Coming at the start of the UN Decade on Ecosystem Restoration and in the midst of the global Covid-19 pandemic, which has highlighted the need to "build back better," the TRI Programme is profiled as one of a handful of flagship global restoration initiatives and a vital platform for piloting innovative tools and approaches to addressing restoration challenges.

Team members and stakeholders from both TRI projects in Kenya were **trained on the use of digital technology and satellite imagery to map and assess land cover.** Using the FAO Open Foris Collect Earth tool and a "Mapathon" approach, team members rapidly collected data from over 10 000 plots at project sites as a baseline for monitoring.

A series of **workshops, webinars and digital discussion forums** by FAO and Bioversity International (now the Alliance) to build capacities **for establishing and utilizing genetically diverse and appropriate tree-seed systems in FLR** work were held. Training focused on strengthening understanding of the importance of genetic diversity for both forest health and resilience to present and future environmental conditions. In addition, training included practical support to TRI countries on how to better integrate these approaches and systems into FLR planning and implementation. Six webinars were organized (three in English and three in French) during 2020, reaching around 180 participants directly.

Design and early implementation of the TRI Restoration Factory – In collaboration with the social enterprise Bridge for Billions, UNEP has developed and begun implementation of the Restoration Factory, a six-month mentorship programme aimed at supporting TRI project partners in developing restoration-based investment proposals and businesses. The training programme covers eight essential elements for commercially viable and investment-ready business development. Design of the programme has benefited from extensive consultation with IUCN, UNEP and FAO global and country teams complemented by interviews with experts in relevant fields, including online learning. The first cohort of the Restoration Factory, which includes nine of 11 TRI country projects, began in April 2021. Implementation of the Restoration Factory will be carefully monitored to collect lessons and insights informing the preparation of a range of knowledge products.

Women from the Elia Village searching for wood in the mangroves. Photo credit: © S.Nancy/En Haut, Guinea-Bissau.

Project-level highlights and progress in 2020

Enactment of **new policy in Cameroon facilitating establishment of sustainable plantations, and sale and transport of non-timber forest products (NTFPs)**, with support of TRI Cameroon. In addition, the project has helped establish eight tree nurseries to propagate fast-growing bamboo, as well as other tree species that produce a number of desired products, including valuable neem oil.

Following a request from the Central African Republic (CAR) Government, **TRI CAR supported the development of a project proposal for the Least Developed Countries Fund (LDCF),** for submittal in June 2021. This USD 10 million proposal will support the establishment of community-managed forests and promote the restoration of degraded lands and forests both in the southwest and southeast regions of the country.

New management plans incorporating FLR designed, approved and implemented at seven pilot state forest farms (SFFs) in China. The plans call for increased diversity in cultivated trees, along with silvicultural and other practices that will generate a broader set of ecosystem services, and contribute to restoring the health of these ecosystems. New management approaches will continue to be implemented in 2021 and complemented by FLR plans for Bijie City, and Fengning and Xinfeng Counties. In total, 208 919 ha will be brought directly under restoration through the seven SFFs.

Development of a provincial FLR strategy for South Kivu, Democratic Republic of the Congo (DRC), following participatory approach and Restoration Opportunity Assessment Methodology (ROAM)[2] assessments. The strategy lays out priority sites and approaches for restoration, including assisted natural regeneration, agroforestry, and protection of the watershed through anti soil-erosion plantings and other measures. Among other uses, the strategy will inform *Local Development Plans* – five-year strategic plans that guide the economic development in the decentralized territorial entities.

Development of the school curriculum on the importance and benefits of healthy mangrove ecosystems in Guinea-Bissau. TRI Guinea-Bissau supported development of a manual for teachers on mangrove ecosystems to help build awareness and support for protecting and sustainably using this important and threatened ecosystem. In addition, some 53 ha of degraded mangrove ecosystems have been brought under restoration to date through community-led restoration work in ten villages.

Draft FLR five-year (2021–2025) National Implementation Action Plan for Kenya, developed with support from the TRI Kenya arid and semi-arid lands (ASAL) project and under review by the Kenya Forestry Research Institute (KEFRI). This plan aims at accelerating interventions on the ground to restore and sustainably manage deforested and degraded landscapes and contribute to the country's Bonn Challenge commitment. This five-year plan is being developed following a rigorous multi-stakeholder consultative process informed by the Restoration Opportunities Assessment Technical Report.

Development of 116 867 ha of Indigenous Community Conservation Area (ICCA) in the Kenya Tana Delta, with support from the TRI Kenya Tana project. The conservation area designation will serve to elevate the importance of biodiversity conservation into the planning and management of this important key biodiversity area, relying upon community-led governance and supported by training and technical inputs on restoration and conservation techniques from partners including Nature Kenya.

Participatory ROAM assessments at regional and local levels in Myanmar identified 29 priority areas and interventions for FLR covering 291 841 ha. Some 360 stakeholders including local community members, non-governmental organizations (NGOs), and government partners, participated in the assessment work.

Establishment of 14 Chilgoza Forest Protection and Conservation Committees (CFPCCs) supporting local management, protection and restoration of threatened chilgoza pine forests in northern Pakistan. CFPCC measures already adopted include sustainable limits on harvesting

2 For more information on ROAM, see: https://www.iucn.org/theme/forests/our-work/forest-landscape-restoration/restoration-opportunities-assessment-methodology-roam

of cones, prohibitions on large-scale commercial harvesting, and community monitoring and enforcement of regulations.

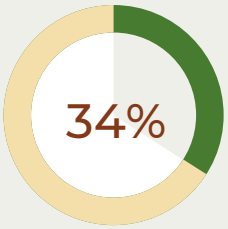
Participatory mapping of four focal FLR landscapes in Sao Tome and Principe (STP) covering approximately one-third of the country finalized with the involvement of local stakeholders.

The nation-wide forest landscape assessment, the four FLR landscape plans and the seedling production plan are being finalized.

Progress in achieving core programme targets

Area of land under restoration

Programme-level target: 483 245 ha under restoration
Progress as of 1 January 2021: 164 432 ha under restoration

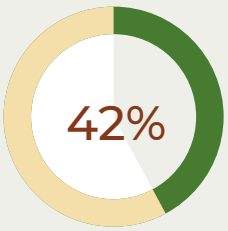


Percentage of target achieved to date

Progress in bringing degraded land under restoration – a principal objective of TRI – is still at an early stage of development. Six projects under implementation report commencement of on-the-ground restoration work: TRI Cameroon, China, Guinea-Bissau, Kenya and Pakistan projects. To date, 164 432 ha are under restoration, which is 34 percent of the aggregate programme target. This target includes the TRI Tanzania project that has not yet started implementation, as well as the Myanmar project where events following a military coup are still unfolding. The largest share of total hectares under restoration are from TRI China, where more than 157 000 ha are presently under restoration. Slower than anticipated progress in bringing hectares under restoration is attributable in part to Covid-19 restrictions on movement and limited windows for planting in many TRI projects, coinciding with onset of the rainy seasons. Partners anticipate accelerated progress on this target in 2021.

Area of land under improved practices

Programme-level target: 754 451 ha [3] under improved practices
Progress as of 1 January 2021: 315 432 ha under improved practices



Percentage of target achieved to date

This indicator captures the total area of landscapes under improved practices, including in production sectors (e.g. agriculture), which lead to improved environmental conditions and/or for which management plans have been prepared and endorsed and are under implementation. Reporting includes all the hectares of degraded land under restoration (as reported above), as well as additional hectares in some cases where improved practices reflect changes in management that result in the sustainable management of lands rather than the restoration of degraded lands.

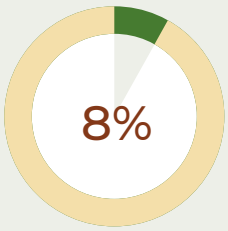
To date, 315 432 ha are under improved management, which is 42 percent of the aggregate programme target. This target includes TRI Tanzania, which has not yet started implementation, as well as the Myanmar project where events following a military coup are still unfolding. Projects with significant hectares under improved management as of 2021 include the TRI China (157 095 ha), TRI Kenya Tana (130 000 ha) and TRI Pakistan (28 252 ha) projects.

3 Note, the target shown here is less than that reported in the TRI 2019 Year in Review and reflects a revision in the TRI Myanmar project target to include only direct hectares (89 005 ha) under improved management, as well as inclusion of a target for the TRI Kenya ASAL project (152 661 ha).

Number of direct beneficiaries

Programme-level target:[4] 287 239 direct beneficiaries
Progress as of 1 January 2021: 22 098 direct beneficiaries

This indicator captures the number of individuals who received targeted support from TRI activities and/or use the specific resources that the project maintains or enhances. To date, 22 098 individuals (13 119 men and 8 979 women) have directly benefited from the TRI Programme, which is 8 percent of the programme-level target. This target includes TRI Myanmar where reporting on direct individuals was not available at the time of this report's publication. Partners anticipate accelerated progress on this target in 2021.



Percentage of target achieved to date

4 Note, the Programme-level target for direct beneficiaries does not include the TRI Tanzania project where a target is presently being defined.

Assessment on Covid-19 impacts, adaptive measures and opportunities

The biggest story in 2020 was undoubtedly the global Covid-19 pandemic which continues to have far-reaching impacts on economies, culture, and the broader world in which we live. These impacts extend to the implementation of TRI projects, including the ability of project teams to execute activities in the field, procure needed materials and support, meet with stakeholders and coordinate work with partners who are themselves facing a number of pressing challenges.

Both the GEF and TRI implementing agency partners provided guidance and took steps in 2020 to ensure that project staff and partners were safe, and that TRI projects continue to make progress in advancing work where possible. Measures included curtailment of operational travel, curtailment of large in-person gatherings, shifting of meetings to online forums, shifts in the sequencing of work and other changes. Project teams were also requested to develop project-level assessments of Covid-related impacts and risks and adaptive management plans going forward. Following on the recommendations of the TRI Programme Advisory Committee, a programme-level assessment of these impacts and adaptive measures was undertaken through a simple survey of all project teams, with the results presented here.

As described in more detail below, findings reveal a range of impacts, the most common of which are delays to project activities. While project management teams have taken a number of adaptive measures to mitigate impacts, responses suggest that TRI partners should anticipate a need among many TRI projects for additional time to complete project activities and achieve intended outcomes. At the same time, the pandemic presents an opportunity to better communicate the ways in which restoration can both prevent and mitigate future pandemics.

Findings

None of the project teams report any instances of project team members contracting Covid-19. While a number of factors beyond the control of agency and project team members can affect the likelihood of contracting Covid-19, the welcome news does suggest that precautionary measures and guidance introduced by GEF and implementing agency partners may have helped to reduce the risk of contracting the disease.

In terms of direct impacts on project implementation, team members report a number of challenges shown in Figure 1. All projects report delays in implementation of activities as a result of Covid-19. Along with reported delays in hiring international subcontractors and in procurement (55 percent, or 6/11 projects); delays in partner-led work directly linked to the project (45 percent, or 5/11 projects); and delays in hiring national subcontractors (27 percent, or 3/11 projects), the **findings suggest that TRI projects will need additional time to complete activities and achieve intended outcomes**. Indeed, when asked if they anticipate being able to successfully complete all project activities by the current project end date, only four out of 11 project teams answered in the affirmative.

Following delays in activities, the second most commonly reported impact from Covid-19 among TRI projects is cancellation of meetings (82 percent, or 9/11 projects) – to be expected following precautionary and mandatory safety measures implemented in TRI countries. Potentially more disruptive impacts including cancellation of project activities and changes in project personnel were reported in only a small number of TRI projects, by two projects and one project respectively.

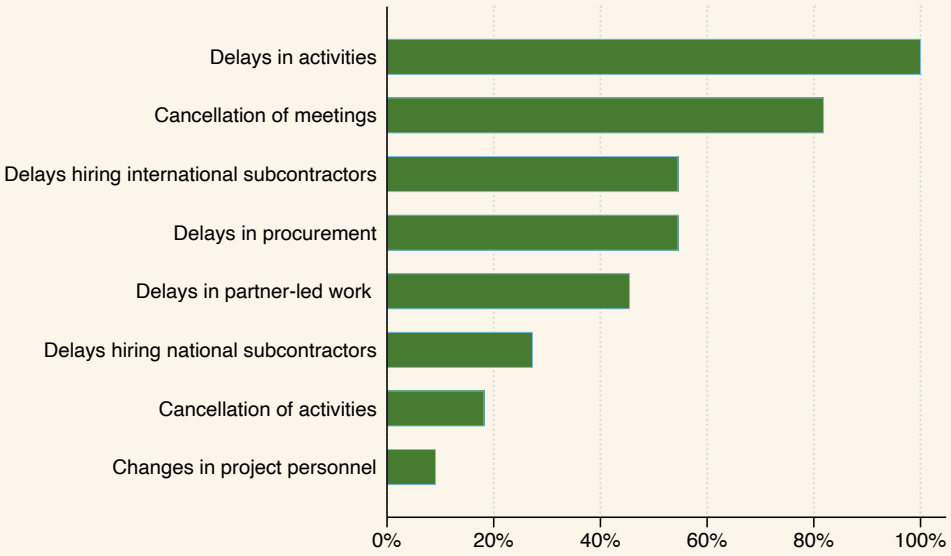


Figure 1. Results from a December 2020 survey of all 11 TRI country projects on the impacts of Covid-19 on project work

The pandemic has put increased attention on the links between natural systems and human well-being, and most projects have seen this manifest in country Covid-recovery plans.

Another potential impact not shown on Figure 1 but included in the survey of project teams is on project co-financing, and whether project teams anticipate any changes to the materialization of promised co-financing as a result of Covid-19. At the outset of the pandemic, there were concerns that in responding to the immediate needs brought on by the pandemic, countries would be forced to reprioritize spending, potentially shifting funds away from earlier commitments including TRI projects. Thankfully, this has not happened, with **only one project reporting a potentially small impact on anticipated materialization of promised co-financing**.

Adaptive measures taken by TRI projects to mitigate the impacts of Covid-19 largely consisted of shifting in-person meetings and activities where possible to online platforms. In some cases, projects have made additional small investments to enhance their capacity to work online, including equipment and software purchases and training. In some cases, project teams have also made increased use of implementing agency in-country offices and facilities. All project teams report making changes to the sequencing of work, particularly for field activities that cannot be performed online. While project teams expect to be able to accelerate the implementation of delayed activities once travel restrictions ease and operating risks subside, when project teams will be able to fully resume field work is still unknown for several projects. Moreover, as there are limited windows for planting and other restoration work that correspond to the onset of rainy and dry seasons in some TRI countries, the full impact of Covid-19 on TRI project implementation will need to be carefully monitored going forward.

Opportunities presented by Covid-19

Following the initial shock from the onset of the Covid-19 pandemic, there has been discussion within the conservation and development communities about whether the pandemic has the potential to bring about some lasting positive change. While not wanting to minimize the tremendous suffering and loss, the pandemic has put increased attention on the links between natural systems and human well-being, and most projects have seen this manifest in country Covid-recovery plans, including those under the common refrain of "build back better."

Agency and TRI partners identify the following ways in which *restoration* efforts and complementary actions can prevent and mitigate risks of future pandemics, and reduce the effects of outbreaks:

- **Directly minimizing the risk of transmission and future outbreaks**
  While the actual Covid-19 transmission vector has yet to be determined, evidence points to bats as the most likely transmission vector – in line with other recent disease outbreaks such as Ebola and severe acute respiratory syndrome (SARS), which are of zoonotic origin. Restoration efforts that serve to limit agricultural expansion at the forest frontier, including by taking pressure off natural forests, as well as restoration efforts linked to combating illegal wildlife trade and discouraging/finding alternatives to bushmeat consumption, are some of the direct risk mitigation pathways that can be emphasized when communicating about restoration and the Covid pandemic.

- **Mitigating the impacts of future pandemics**
  The enormous strains put upon human societies by pandemics are mitigated in no small part by the health of natural systems. Whether we speak of clean air, availability of clean water, resilient and sustainable food systems, protection from natural disasters, all these services and protections are dependent upon the underlying health of natural ecosystems, which restoration seeks to enhance and protect. Moreover, as we have seen in this pandemic, impacts tend to fall disproportionately on poor and marginalized communities. All of which calls for enhanced action on restoration by those with a responsibility to help bring assistance and support where it is needed most.

While partners are advised to be cautious to avoid any appearance of profiting from a calamity, the promise of restoration in addressing many of the issues brought about by Covid-19 and other pandemics should not be ignored. TRI project partners along with global support partners can help advance restoration work of their respective projects, and restoration efforts more broadly, by developing and deploying effective communications and advocacy materials that illustrate and highlight these links.

Looking forward

TRI partners will continue to monitor the impacts of Covid-19 on TRI projects going forward. Adaptive measures will be one of several key areas of focus for the mid-term evaluations set to take place in 2021 for many TRI projects. TRI partners will keep all stakeholders informed of developments moving forward.

Community-led restoration in the Far North Region of Cameroon

In the Aissa Hardé village in the Far North Region of Cameroon, Mamma Salamatou tends to the rows of tiny seedlings in plastic bags growing under awnings – protection from the blistering sun that bakes this landscape of grasslands and trees for much of the year. One of several community members working in partnership with the TRI Cameroon restoration project – she is also a pioneer. In this largely conservative part of Cameroon, it is uncommon for women to take on work and responsibilities outside the household. Mamma Salamatou was the first woman to join the local Madadakouda Common Initiative Group (CIG) that serves as a local governing board for the community, and she has played a key role in encouraging other women from her village to participate in the CIG and TRI project-supported restoration work.

Her story speaks to the challenges of those living in this poor, rural area of Cameroon, particularly women. A widow and mother of three young children, she has no legal right to own land, and is instead considered a caretaker of the land that once belonged to her deceased husband, until it can be passed on to her two male children. Moreover, the land on which she farms, like most farmland in this region of Cameroon, is not as productive as in the past – a legacy of intensive agriculture and animal grazing together with prolonged periods of drought, which are thought to be exacerbated by climate change. As if these hardships were not enough, insurgents from the group Boko Haram, have been launching cross-border attacks on civilians from Northeast Nigeria, and the situation remains volatile with military forces posted nearby.

Amidst this backdrop, TRI Cameroon has been working with four villages in this region on a number of restoration initiatives, and there are plans for broader engagement with additional partnering villages in 2021.

CAMEROON

Project updates and achievements to date

- A new policy facilitating the establishment of sustainable plantations and the sale and transport of NTFPs.
- Eight nurseries for the propagation of bamboo and other high-value tree species established with project support, with a combined production exceeding 80 000 plants.
- Ninety local stakeholders trained on networking, market enterprise and business-development skills for bamboo and NTFPs; 140 stakeholders trained on agroforestry techniques.
- Twenty-five hectares of degraded land in the Waza landscape under restoration.

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The project is supporting partnering villages to implement restorative agroforestry cropping systems as well as sustainable plantations of fast-growing bamboo plants, neem trees (*Azadirachta idica*) and other tree species. Project support includes training on how to establish and manage nurseries and plantations, how to plan and establish agroforestry systems, how to transport seedlings, as well as direct support for the provision of seedlings and other supplies.

To date, three nurseries for the propagation of seedlings have been established with project support in the region, with the one in the Aissa Hardé village being the largest. Bamboo is a key focus of the project. With the help of the International Network for Bamboo and Rattan (INBAR), bamboo is promoted as a fast-growing source of building material and energy that can take pressure off slower-growing trees and natural areas and provide other benefits.

In addition, neem trees – the second most propagated tree at the nursery – are valued for both wood and other neem products, including medicines made from the leaves as well as from the seed oil. The German Government development agency GIZ is investing in a project in the area to develop the commercial potential of neem oil – opening up opportunities for collaboration with TRI Cameroon.

Despite the ongoing Covid-19 pandemic, the project has managed to bring 25 ha of degraded land under restoration in the region, with over 10 000 seedlings planted, and preparations are underway to expand plantings in 2021, in time for the three-month rainy season beginning in July.

As Mamma Salamatou says, "*I feel good knowing that we are working to bring back fertility to our lands, and that we are showing through our efforts that women have an important role to play.*"

> *"I feel good knowing that we are working to bring back fertility to our lands, and that we are showing through our efforts that women have an important role to play."*
>
> Mamma Salamatou

Mamma Salamatou at the Aissa-Hardé village nursery. Photo credit: © Fogoh John Muafor, TRI Cameroon.

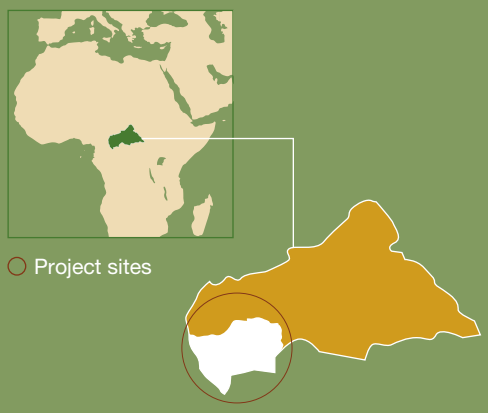
Partnerships for restoration in the Central African Republic

In any business venture, bringing the right kinds of partners together can make all the difference between ultimate success and failure to get the idea off the ground. The same is true for restoration where a diverse set of skills and inputs are needed, including rights and access to land, capital, labour, technical knowledge, particularly restoration tools and techniques, high-quality seed stock, and more. Yet often these potential "partners in restoration" are not aware of each other, or have no suitable means for collaborating, even when and where restoration would be a mutually beneficial and viable endeavour.

Such is the case in the CAR, where an innovative public–private initiative together with support from TRI CAR is being explored as a means of incentivizing and facilitating the restoration of degraded and deforested lands.

The initiative involves a private forest-products company, Centraforest, together with local farmers, the central government, and TRI CAR, all working to help restore 1 200 ha of deforested and degraded land outside the capital of Bangui. By restoring deforested land into productive agroforestry systems, the initiative will help bridge the large gap between Bangui's demand for wood energy and wood products, and what can be sustainably supplied by surrounding forests.

The scheme will work as follows: local farmers from the surrounding communities are afforded access to privately held (by Centraforest) land to farm, in exchange for agreeing to care for acacia tree seedlings that are integrated into the agroforestry systems. After two years of growth, the tree seedlings cover the surrounding ground with shade such that the farmers shift to another part of the land concession to start the process in a new area. After eight years of growth, the timber will be harvested, and the cycle can start anew. Participating farmers will own all the produce grown in the agroforestry



CENTRAL AFRICAN REPUBLIC

Project updates and achievements to date

- Ten Local Development Plans for forest communes and 15 forest management plans for forest concessions assessed to identify best entry points for restoration.
- Support group established and trained on land-use assessments using Open Foris Collect Earth to analyze and identify hotspots of degradation to guide restoration efforts.
- Database developed on edible, marketable caterpillars and their host plants.
- New project proposal of USD 10 million focusing on sustainable forest management and FLR developed for submission to the Least Developed Countries Fund of the GEF.

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systems – no fee or percentage of royalties is charged – and the initial mechanical preparation of the land prior to planting is done by Centraforest. In addition, each participating farmer agrees to cultivate a half hectare of acacia trees on his or her own land, with Centraforest agreeing to purchase the wood produced on these farmer-owned plots.

The initiative will also create additional job opportunities for local community members, which are needed to maintain the more mature two-plus-year-old acacia plantations on the Centraforest concession and harvest and process the wood products that are generated.

Potential inputs from the TRI CAR project include technical support on agroforestry techniques, support for the design of the overall restoration project so as to protect and conserve threatened biodiversity, and support for the capture and dissemination of experiences and lessons learned. The CAR Government, along with signing a long-term use agreement with Centraforest providing access to the 1 200 ha (1 000 ha held by Centraforest and 200 ha held by smallholders) for restoration in the agreed manner will also provide technical inputs and support through the national forestry service department.

If successful, the initiative may offer a model that can be replicated and scaled up in other parts of CAR, to help support achievement of the country's Bonn Challenge pledge to bring 3.5 million hectares of deforested and degraded lands under restoration by 2030.

Looking ahead

Partnership opportunities between TRI CAR will be assessed more closely in 2021, and if suitable opportunities exist, a formal partnership agreement will be signed and support provided. In partnership with the Centre for International Cooperation in Agronomical Research for Development (CIRAD), the wood energy supply master plan for Bangui/Bimbo will be developed, taking into consideration the latest market-demand data. Based on the analysis of the existing local development plans and forest management plans and backed up by spatial data, local organizations will be contracted to initiate restoration interventions on the ground.

Chief of Boutili Village in Central Africa Republic, standing in community farmland impacted by soil degradation. Photo credit: © TRI CAR.

Enhancing the health and services of China's state forest farms through forest landscape restoration

Not all forests are the same. Anyone who has experienced the sights and sounds of an old-growth forest – what is also called a "primary forest" – with its abundance of plants, animals, and rich soils, knows they are special places, places of wonder. Scientists who study forests tell us that primary forests provide more ecosystem services than younger forests. They store more carbon, offer more resilience against disease and pests and other shocks, and provide unique habitat for many threatened species. Moreover, the strengths and qualities of primary forests come not only from the age of the constituent trees, plants and soils, but also from the diversity of the trees themselves. Primary forests have a richer diversity of tree species as well as within-species genetic diversity, and this diversity gives rise to diversity in the other plants and animals that comprise the forest ecosystem.

The lessons of primary forests are applicable to so-called "production forests" – forests where trees are grown and harvested for timber or used for other purposes. Often, these types of forests are planted with just one or two species of value for commercial timber production, with the intention of maximizing the amount of timber that can be harvested. However, experience has shown that forests managed in this way are particularly susceptible to disease and other shocks, and importantly, they deliver a much narrower range of ecosystem services than forests managed to more closely resemble primary forests.

Such has been the experience of China, where a huge expanse of land – some 8 percent of China's total land mass – has been devoted to SFFs. In these SFFs, *afforestation*, planting of trees on land where there was no prior

Project updates and achievements to date

- Seven FLR-based forest management plans for pilot SFFs approved by the government, with 156 720 ha presently under restoration.
- Three draft FLR plans created for Bijie City, Fengning County and Xinfeng Counties to be formalized in 2021.
- Baseline assessment of ecosystem services and socio-economic status complete and monitoring plans prepared for all seven SFFs.
- Nearly 500 people from three provinces trained on FLR theory and practice.

PEOPLE'S REPUBLIC OF CHINA

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tree coverage, and *reforestation*, planting of trees on existing forest lands that have been depleted through harvesting, has been done largely using only a few tree species. While these practices have contributed to a significant expansion in the country's forest cover – an 81 percent increase in forest area over the past few decades[5] – these forests have by and large failed to provide a more diverse set of needed ecosystem services. And with climate change expected to bring increased stressors including more frequent occurrences of drought, heat, and pest infestations, there is concern that these SFFs will be at high risk of decline.

> *"We have learned a lot through the project... including how to monitor and effectively address soil erosion, surface run-off, oxygen levels in water, habitat fragmentation, and more."*
>
> Chi Mingfeng, Director of Huangtuliangzi SFF

Field visit during the Guizhou provincial ecosystem services monitoring workshop. Photo credit: © TRI China.

5 **Zhang, D.** 2018. China's forest expansion in the last three plus decades: Why and how? *Forest Policy and Economics*, 98(C): 75–81.

New management approaches incorporating FLR

With these challenges in mind TRI China has been working to support government partners in instituting an ambitious set of measures to transform the management of SFFs and improve their health and provision of ecosystem services. Working at three different sites and in seven SFFs, partners are taking the principles and best practices of FLR and using them to develop new management plans that call for increased diversity in cultivated trees, along with silviculture and other practices that generate a broader set of ecosystem services.

One example of this shift can be seen in Huangtuliangzi SFF, which lies to the northwest of Beijing and plays an important role in reducing the effects of desert sandstorms on Beijing. Under the new management plans, this pilot SFF will be managed to deliver a wider set of services, including water and soil conservation, production of edible mushrooms, and tourism through enhanced access and improvements to a forest park within the SFF. To achieve these objectives, the SFF has been divided into different zones depending upon the landscape and differences in micro-climate (e.g. the abundance of rainfall, soil composition and elevation), and a much wider variety of planted trees and shrubs will be cultivated depending upon their suitability to the local environment.

From reluctant participants to active partners in FLR

While some SFF managers and staff were initially hesitant and a bit sceptical of the feasibility and benefits of changing the SFF management plans, they were eventually won over. As TRI Project Manager Liu Jing says, *"We were pleasantly surprised and proud of the changes carried out by SFF staff. During the FLR learning process, the SFF technicians seemed confused and silent at first. But after a year of partnership, they moved from simply absorbing the information on FLR to actively participating in the development of the new SFF management plans and providing many valuable ideas along the way. In addition, some staff have taken the lead in promoting and sharing their experiences with other SFF practitioners. This is a*

Experts discuss the establishment of an irrigation run-off field with employees of Mulan SFF. Photo credit: © TRI China.

valuable contribution – one we hope to expand upon further in the months to come."

"We have learned a lot through the project," said Chi Mingfeng, Director of Huangtuliangzi SFF. *"The main indicators of SFF management in the past were forest growth and coverage. Now we have learned new techniques, including how to monitor and effectively address soil erosion, surface run-off, oxygen levels in water, habitat fragmentation, and more. The most interesting thing is using digital simulation to predict the future growth of forests under different management models, which is really helpful."*

Looking ahead

After a challenging year that included delays, restrictions in movement and other impacts from the pandemic, TRI China project partners are looking forward to ramping up implementation of work. The seven pilot SFF management plans will be formally implemented beginning in early 2021. And the project will support SFF partners in monitoring the progress of activities and impacts, and in working to capture experiences and share these with the wider network of SFFs in China and beyond.

Mulan landscape. Photo credit: © TRI China.

Restoring the landscapes of South Kivu Province in the Democratic Republic of the Congo

The mountainous region of South Kivu Province in eastern DRC, which shares a border with the countries of Rwanda and Burundi, is a land of promise and despair. Promise in that the region contains abundant natural resources including two large freshwater lakes and mineral resources, as well as places of immense natural beauty and splendour, including some of the last remaining habitat for eastern lowland gorillas, African bush elephants, and other threatened species. Despair in that this region has been beset with intermittent war and violence for over 25 years.[6]

In this context, working to restore degraded lands can seem like a dream – far removed from the reality on the ground. However, restoration remains an essential undertaking and priority, with South Kivu Province one of the most densely populated and poorest provinces in DRC, and a place where these pressures, together with poor management practices including overgrazing and unsustainable timber and fuelwood harvesting, have resulted in significant forest and landscape degradation.

It is here that TRI DRC is working to bring positive change, helping stakeholders to design and put into place restoration interventions that meet the needs of local communities and landscapes. One way is by supporting the development of a *Provincial Forest and Landscape Restoration Strategy*. This strategy lays out priority sites and approaches for restoration, including assisted natural regeneration, agroforestry, and protection of the watershed through anti soil-erosion plantings and other measures.

Project updates and achievements to date

- Land-cover and land-use maps developed for the Chiefdoms of Ngweshe and Kabare; natural regeneration, terraced crops and other FLR approaches proposed for over 833 ha.
- Restoration activities identified and planned with indigenous communities of Buyungule and Muyange.
- Priority restoration interventions on 1 000 ha, including tree species, identified in Tshiseke and Kabare.
- 68 people trained on ROAM and FLR, 20 local leaders trained on FLR monitoring and evaluation, and 45 stakeholders trained on capacity assessment methodology.

DEMOCRATIC REPUBLIC OF THE CONGO

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6 https://www.msf.org/msf-forced-pull-out-eastern-drc-territory-following-violent-attacks

Degraded agricultural terraces in Lurhala (Ngweshe Chiefdom, Walungu territory) to be restored with support from TRI. Photo credit: © TRI DRC.

The strategy has been informed by an assessment of land degradation and restoration opportunities, performed in 2020, using ROAM. As part of this assessment, two field missions were organized to consult with a variety of stakeholders in the Chiefdoms of Kabare and Ngweshe, including traditional leaders, indigenous peoples, civil society, NGOs, research organizations and the private sector. Together with state-of-the art land cover analysis using satellite imagery and geospatial software, the assessment found that around 25 percent of land in the province shows signs of degradation, and that restoration opportunities are found on some 2 million hectares in total.
A focus of the provincial restoration strategy is in identifying restoration options and providing recommendations to increase the productivity and sustainability of agriculture, forestry and fishing. For example, the strategy provides recommendations on integrated land-use planning at the provincial and territorial levels and on technical support needed to implement and monitor FLR interventions on the ground. Another important need identified by stakeholders is the development of sustainable financing mechanisms for FLR that provide sufficient funding for needed follow-up maintenance following initial plantings.

The provincial restoration strategy will be used in a number of ways. It will inform *Local Development Plans* – five-year strategic plans that guide the economic development in the decentralized territorial entities – including those under revision with support from the German Government development agency GIZ in the Chiefdoms[7] of Kabare and Ngweshe. One finding from an evaluation of prior local development plans was that these plans did not provide for sufficient integration of environmental concerns – a shortcoming that stakeholders hope will be addressed in the new local development plans. Other uses for the Provincial Forest and Landscape Restoration Strategy include support for advocacy efforts at the national level to enhance budget allocations for restoration, support for mobilization of funding from international funding mechanisms, and support for other provinces in developing their own tailored restoration strategies.

7 The South Kivu Province is further divided into eight administrative territories. Chiefdoms bring together groups of traditional communities with common ties, under the leadership of a Chief.

Looking ahead

In 2021, the project will help support validation of the provincial restoration strategy, working with stakeholders. The project is also helping to bring about the establishment of a Provincial Taskforce on FLR, linked to the provincial environmental ministry. This taskforce will work to advise and coordinate FLR actions at the provincial and territorial levels, and facilitate exchanges between the different sectors involved in FLR.

Government partners within the national Ministry and the General Secretariat of the Environment are already examining the work on FLR in South Kivu and considering how it may be used to mobilize additional resources to extend the strategy to other provinces of the country. This work will support DRC in meeting its Bonn Challenge commitment to bring 8 million hectares under restoration by 2030.

Lebeau Ngoy of FAO demonstrates tree-planting techniques in Kabare, South Kivu, DRC. Photo credit: © TRI DRC.

Restoring mangroves while preserving traditional farming methods in Guinea-Bissau

For many decades, coastal villages in Guinea-Bissau have practiced a special type of rice cultivation involving construction of earthen dykes to prevent seawater ingress and benefiting from mangrove trees lining the coast, which provide a buffer against storm surges and erosion. However, rising sea levels and a steady exodus of youth to inland urban centres are threatening the viability of these villages and way of life. Moreover, as unproductive or non-viable mangrove rice fields are abandoned without prior removal of the earthen dykes, they leave a legacy of coastal degradation that hurts the environment and the people who remain in these areas.

TRI in Guinea-Bissau is working to address these challenges – helping to identify a more sustainable path forward for rural communities living amongst these threatened ecosystems. Working with some of the most vulnerable and affected villages, the project is providing direct support to communities to rehabilitate and improve the productivity of those rice fields which partnering communities consider most viable and valuable. In return, the villages commit to flattening the dykes of abandoned rice fields to allow the sea to enter again and mangrove seedlings (called propagules) to grow, thus allowing for restoration of the mangroves over time.

GUINEA-BISSAU

Project updates and achievements to date

- Participatory territorial diagnosis conducted in ten villages, and 950 stakeholders trained on methods for the rehabilitation of mangrove rice fields.
- National platform to coordinate and support mangrove conservation and restoration developed.
- 53 ha of degraded mangrove forest under restoration.

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Community-led replanting of mangrove seedlings in 2020. Photo credit: © IBAP.

In 2020, this work was affected by three major challenges: a political crisis, the global Covid-19 pandemic and exceptionally high rainfall during the summer planting season. A contested presidential election in December 2019 appears to be heading towards a peaceful resolution. However, the complex situation in 2020 resulted in changes to the team of government partners engaged with the project and the need to retrain staff and rebuild working relationships. Fortunately, disruptions have occurred early in project implementation, and the TRI Guinea-Bissau management team expects only limited impacts going forward.

The Covid-19 pandemic as well as exceptional summer rains have affected project work, limiting field missions and complicating the procurement of needed supplies and consultant services. Even with these challenges, the project was able to make good progress in 2020, with over 30 000 mangrove seedlings planted and implementation of a study looking at the best ways to strengthen the resilience of mangrove rice paddies to climate change impacts. And at the national level, the project helped support the design and formation of a national platform to coordinate and support mangrove landscape restoration efforts throughout Guinea-Bissau.

Looking ahead

There are some exciting possibilities in 2021 for partnering with aligned projects in Guinea-Bissau and regionally, including a partnership with IUCN, Wetlands International, and Collectif 5 Deltas on a programme focused on the conservation of mangroves throughout West Africa, from Senegal to Benin. The project is also supporting efforts to increase awareness and understanding of the benefits and importance of conserving mangrove ecosystems, with a focus on school curriculum development and educational outreach, and training of a new generation of conservation leaders. And the project will continue efforts to reach its target of 2 700 ha of degraded lands under restoration, with additional partnerships with villages anticipated. Partners look forward to the work ahead.

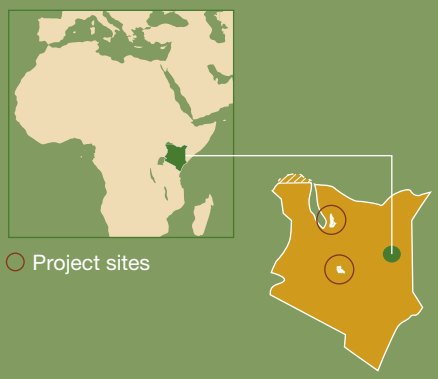
Mangrove rice field in 2003 (left) and abandoned in 2019 (right): failure to remove dykes on abandoned rice fields prevents natural regeneration of the mangrove from taking place. Photo credit: © IBAP/IUCN.

Supporting improved management and restoration of the Mukogodo National Forest Reserve in Kenya

The Mukogodo Region in central Kenya, with its landscape of savannah and dry forest, is a challenging place from which to make a living off the land. Rainy seasons are short, lasting from March to May with shorter rains in September and October, followed by a long dry season in between. The indigenous Maasai, Dorobo and Yaaku communities that have lived here for generations depend largely upon these seasonal rains to provide fodder for their livestock herds, which comprise the dominant source of income and jobs, alongside subsistence farming.

For local pastoralists, one way of coping against the long dry season is to bring their herds to the Mukogodo Forest Reserve for grazing. This 30 189 ha protected dry forest situated in the centre of a larger landscape of savannah rangeland is an important source of clean water, honey and other natural products, and also contains critical habitat for threatened species including Hinde's babbler (*Turdoides hindei*), Grevy's zebra (*Equus grevyi*) and the Tigoni reed frog (*Hyperolius cystocandicans*). However, overgrazing, combined with more frequent periods of drought and heat thought to be linked to climate change are degrading this forest ecosystem. With little in the way of alternative sources of income, both the local communities and nature will lose out if nothing is done to address the problem.

The TRI Kenya ASAL project is helping support local communities in developing a better approach for managing and restoring this fragile ecosystem. One way is by strengthening the local Community Forest Association (CFA) responsible for partnering with the Kenya Forest Service (KFS) in managing the forest reserve. While the CFA has been in



Project updates and achievements to date

- Revised management plan for the 30 189 ha Mukogodo Forest Reserve underway, supported by a strengthened Mukogodo CFA.
- Five-year (2021–2025) National FLR Implementation Action Plan for Kenya developed.
- Seven hectares under restoration in Mount Kulal ecosystem.
- Assessment of ecosystem services and biophysical/socio-economic surveys for Mukogodo ecosystem finalized; resource mapping carried out for the two conservancies. Sustainable land management plans for Illngwesi, Leparua and Mount Kulal underway.

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existence since 2008, many community members, including women, lacked a strong voice among CFA representatives, and there has also been insufficient funding and expertise to support CFA work. With TRI support, a new constitution providing for enhanced participation of local communities in the CFA and forest reserve management was adopted, and a new round of elections for an expanded slate of CFA representatives was held. In addition, the project, through partnership with the Northern Rangeland Trust and Laikipia Wildlife Forum, has provided support for accessing the value of ecosystem services generated by the reserve, and strengthened the capacity for community members to better manage the surrounding grazing land (called "group ranches"). With greater participation and representation of local communities in the CFA, it is expected that revised management plans governing the Mukogodo Forest Reserve will better reflect the needs of local communities whose support is crucial to the success of any management plan.

While new management plans for the Mokogodo Forest Reserve are still being completed, stakeholders have identified the following priorities:

- A new, **participatory grazing management plan** that restricts access to what is ecologically sustainable and provides for periodic review by the CFA for adaptive management.
- **Strengthened enforcement of laws** to protect the forest's rich biodiversity, reduce illegal grazing, hunting, tree felling and other illegal activities, and ensure that the forest continues to be a source of important ecosystem services. This will require investment in community rangers, patrol vehicles and communications equipment.
- **Capturing additional income and benefits from NTFPs** such as herbal medicines and honey, through the strengthening of local capacity to harvest, refine and market these products, as well as development of ecotourism through, among other measures, developing an ecotourism plan for the Mukogodo Forest.

As noted, one issue facing the local CFA is a lack of funding to support improved management and protection of the Mukogodo Forest Reserve. With this challenge in mind, the project supported an exchange visit with the Hombe CFA, which operates in Nyere County surrounding Mount Kenya Forest Reserve. There, Mukogodo CFA members learned first-hand how the Hombe CFA has put into place an access fee charged to herdsmen for grazing of livestock in the public reserve, with the proceeds used to support management and protection of the forest. They also learned how the Hombe CFA successfully managed to enhance community members' income through identification and promotion of sustainable income-generating activities. Both these approaches are under consideration and development at the Mukogodo Forest with project support.

2020 elections for the Mukogodo Community Forest Association. Photo credit: © Laikipia Wildlife Forum.

Looking ahead

In 2021, partners anticipate finalizing and implementing the Mukogodo Forest Management Plan. In both the reserve and surrounding areas, several restoration and sustainable land management interventions are planned, including assisted natural regeneration, enrichment planting with native trees, agroforestry with fruit trees and wood-lots on cropland, establishment of six tree nurseries, a major tree-growing campaign, promotion of hay farming for animal feed and income generation, improved water management in the surrounding conservancies as well as several capacity-building activities on FLR and sustainable land management.

The project will also continue to support the development of the Kenyan Forest and Landscape Restoration Action Plan 2021–2025. This five-year plan seeks to accelerate and support interventions on the ground to restore and sustainably manage deforested and degraded landscapes and contribute to the country's Bonn Challenge commitment. The plan is being developed following a rigorous multi-stakeholder consultative process informed by the Restoration Opportunities Assessment Technical Report. The plan identifies strategies and activities for facilitating the scaling-up of FLR in Kenya. It also provides a monitoring framework, a plan for mobilizing funding to support FLR, and proposes arrangements for the coordination and steering of FLR activities in the country.

A knowledge management system for collecting, storing and sharing knowledge on FLR in Kenya is also being developed. This activity is led by KEFRI, in partnership with other institutions including the International Centre for Research in Agroforestry, FAO, KFS, the Kenya Agricultural & Livestock Research Organization, the Ministry of Environment and Forestry, and World Vision, among others. The system is presently designed as a website and information-sharing platform. The system is expected to consolidate FLR knowledge to make it easily accessible and usable for both the current project and future projects and initiatives.

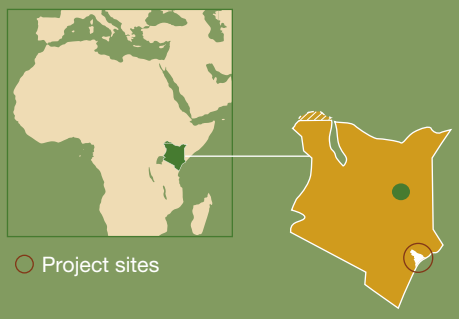
A local herdsman in the Laikipia District, Kenya, grazing his cattle in the Lenaboisho Cooperative Society rangeland. Photo credit: © Laikipia Wildlife Forum.

Bringing the Tana River Delta in Kenya back into balance with nature

One way of thinking about environmental problems at all scales, whether we are considering forest and landscape degradation, or species loss and extinction, or climate change, is that they essentially describe systems out of balance: the demands that people and economies are placing on nature are outstripping that which nature can sustainably supply.[8]

Kenya's Tana River Delta, where the TRI Kenya Tana project is working, is one such system out of balance. Here, tens of thousands of Kenyans share a diverse landscape of freshwater, forest, floodplain and coastal habitats, and depend upon the delta to make a living through small-scale agriculture, livestock grazing, fishing, timber and wood harvesting, and tourism. However, rapid population growth and poor land-use practices are extracting more than what the delta can sustainably supply in terms of productive pastureland, soils, wood, clean water and other ecosystem services. Over time, this imbalance is steadily degrading the delta – particularly the heavily populated western terraces – threatening the plants, animals and livelihoods of the people who live here. And climate change impacts are expected to place additional stressors on these resources going forward.

Addressing this imbalance is challenging to say the least, and no single intervention or approach is likely to be sufficient. The TRI Kenya Tana project, under implementation by UNEP and managed by Nature Kenya, is using a multi-layered approach to help reduce pressure on the delta's natural systems and restore degraded lands.



KENYA

Project updates and achievements to date

- 116 867 ha of ICCA created, with governance mechanisms in place for sustainable land management.
- 2 010 beneficiaries from income-generating activities; 33 289 beneficiaries, actively engaged in restoring the Tana Delta from the 45 village natural resource land-use committees (VNRLUCs), five community forest associations, five water resource users associations and the ICCA Committee were trained on FLR and established and started implementation of restoration plans.[9]
- 45 VNRLUCs established, registered and trained on FLR and sustainable land management. The establishment of a multi-stakeholder ICCA Committee and a recently developed Tana ICCA Management Plan has complemented these efforts, increasing awareness on the complementarity of conservation and development agendas.

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations

8 **Dasgupta, P.** 2021. *The Economics of Biodiversity: The Dasgupta Review*. London, HM Treasury.
9 Note that beneficiaries reported here include both direct and indirect beneficiaries of TRI.

Ruins from a hotel in the Kipini area. Seawater intrusion has resulted in multi-billion Kenya shilling losses. Photo credit: © Caroline Chebet.

One key way is on the policy front, helping support more balanced land-use planning and management. Working with partners including the local Tana River and Lamu County Governments and local communities, the project has supported the development and now implementation of the *Tana Delta Land-Use Plan*. Adopted by Lamu County as an official policy document and under review by Tana River County, the 130 000 ha land-use plan[10] will serve to guide future development in the Tana Delta. It promotes regulated access and use of public pastureland, forests and waterways, and improved management of natural resources, with the aim of reducing the drivers of deforestation and degradation, helping promote natural regeneration, and conserving habitat for threatened biodiversity. The plan also envisions supporting the development of "green value chains" consisting of sustainably produced products that enhance livelihoods and income while preserving the natural ecosystems that provide the raw materials for these goods.

The TRI Kenya Tana project's contribution to the work of developing and implementing the *Tana Delta Land-Use Plan* has included providing training sessions for government and community

The project is supporting local communities in developing and strengthening sustainable businesses, including beekeeping and fish farming.

10 Note, the 116 867 ha ICCA described in the project updates and achievements section below and the progress update on implementation section is embedded within the area covered by the Tana Delta Land-Use Plan, with the two complementing one another.

partners on FLR and sustainable land management principles and practices. Some 60 workshops have been presented to date, reaching nearly 30 000 stakeholders.

Another way the project is helping to reduce pressures on the delta is by supporting local communities in developing and strengthening sustainable businesses, including beekeeping and fish farming. Some 100 interested people from different communities in the delta were trained on beekeeping techniques, and each trainee was also provided with equipment needed to start beekeeping (including box, colony, protective clothing, and centrifuge machine for refining harvested honey). In 2020, these beekeepers collectively harvested 670 litres of honey. The beekeeping, which relies in part on the health of surrounding landscapes, helps to diversify and supplement household income and provides a further incentive to sustainably manage the landscape.

Similarly, in the coastal town of Ozi, where fishing is already an integral part of the local economy and soil conditions are favourable, the project has supported the development of sustainable fish farming. Interested community members were trained on fish-farming techniques, 14 fish ponds were constructed, and community members were also provided with three fish-feed making machines. Fish farming is anticipated to begin in 2021.

Looking ahead

Looking to 2021 and beyond, key work of TRI and partners includes completion of a delta-wide assessment of land degradation and restoration opportunities using the ROAM methodology; a targeted communications campaign to increase awareness and support for landscape restoration and sustainable land management practices at the national and county levels; and continued work supporting the development of sustainable livelihood value chains and the implementation of priority restoration interventions on the ground.

Rice production in Ozi under climate smart agriculture. Photo credit: © Caroline Chebet.

Restoration meets the needs of local forest communities in Myanmar

The forests in Myanmar provide a wealth of products and benefits for local communities. These benefits include generation of timber, as well as NTFPs, such as fruits, nuts, resins, gums, edible plants and mushrooms, fish and game, and more. Just how valuable these NTFPs are to local communities is an important consideration when designing effective forest restoration and management plans, and something that TRI Myanmar sought to better understand as part of a recent assessment.

Working in the Sagaing Region – the dry central part of the country that has experienced extensive deforestation and land degradation over the past two decades – the project surveyed some 60 people from six villages on the harvesting and use of NTFPs. Researchers wanted to know the different types of NTFPs harvested, the level and frequency of harvesting, whether NTFPs were sold on markets or used directly by households, whether hunting of fish and game is taking place, and whether the level of harvesting is sustainable.

Overall, the study showed that NTFPs are an important source of food, fuel and income for all forest communities surveyed, particularly during times of hardship when NTFPs provide an additional measure of food security and supplementary income for poorer households. At the same time, the study also showed that the harvesting of NTFPs often far exceeds what is sustainable, and presently there are no local laws in place to regulate non-commercial harvesting. Such unstainable harvesting of NTFPs is one cause of forest degradation alongside other use impacts such as logging.

As Maung Myint, Chief of Kyun Taw Village in Kawlin Township notes, "*Twenty years ago, wild boar, deer and fowl were plentiful near our village, but nowadays it is hard to find them.*" Another village leader, Than Aung, Chief of Maelinchaung Village said, "*Bamboo is a natural forest resource*

MYANMAR

Project updates and achievements to date

- Cost-benefit analysis of restoration options in six townships of Sagaing Region; *Sterculia versicolor* plantations identified as having good investment return potential.
- ROAM assessments with 360 stakeholders identified 29 FLR priority areas for FLR covering 291 841 ha.
- FLR intervention priorities for 2021 in six townships identified with government partners.

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and essential for our village. Thus, we do not cut all the bamboo in the forest. We leave bamboo shoots for the next harvest as much as we can since we are making bamboo baskets and generating income from selling these bamboo baskets."

Using the results of this study, the TRI Myanmar project assessed the costs and benefits of different options for restoring degraded and lost forest in the Sagaing Region. Findings suggest that the highest value restoration options include a mixture of resin-bearing trees (*Sterculia versicolor*) plantations and assisted natural regeneration to restore high conservation-value forest important for the conservation of threatened species.

Looking ahead

In 2021, following the easing of Covid-19 travel restrictions and finalization of the project execution agreement that was delayed, the TRI Myanmar project will accelerate implementation of FLR activities through the project's partners, including the Myanmar Forest Department, The Nature Conservancy (TNC) and the Myanmar Environment Rehabilitation-conservation Network. Assessments using ROAM performed in 2019 have provided a strong platform for restoration work by identifying 28 potential areas to be restored, covering 300 000 ha and identifying a wide range of restorative and complementary options. These include restorative agroforestry systems, support to community forestry user groups, natural regeneration, assisted natural regeneration, establishment of sustainable wood plantations, biological measures for soil and water conservation, and biodiversity conservation and creation of elephant corridors.

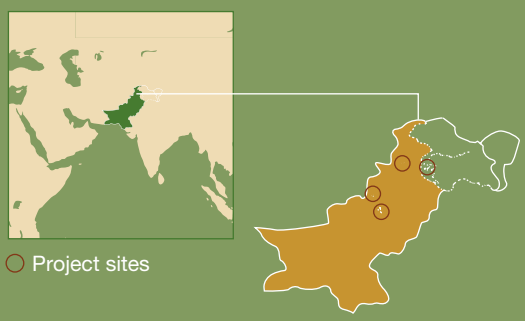
Harvesting resin (*Sterculia versicolor*) from a plantation in Kyunhla township, Myanmar.
Photo credit: © TRI Myanmar.

Restoration from on top of the world – promising news from Pakistan

At the foot of the Himalayan mountains in northern Pakistan, at an elevation of between 2 000 m and 3 500 m, is a unique and fragile ecosystem. Known as chilgoza pine forests for the chilgoza pine trees (*Pinus gerardiana*) that make up most of the tree canopy, these forests provide a wealth of benefits for the communities and other living creatures that make a home here. Nuts harvested from the chilgoza pine cones are highly prized and sold on local and international markets. Mushrooms, honey and other medicinal plants are found closer to the forest floor. And the forests are home to a number of threatened species including the rare and endangered snow leopard, the Himalayan lynx, the Kashmir markhor, wolves and black bears.

Increasing demand for these forest goods, particularly for the chilgoza pine nuts that sell for anywhere from USD 20 to USD 100 per kg, together with inadequate regulations and enforcement governing the harvesting of cones, is leading to over-exploitation and degradation of the ecosystem. If nothing is done to change the current trajectory, the chilgoza pine and the natural ecosystem anchored by these trees may soon disappear.

TRI Pakistan seeks to address these challenges. Working with local communities and the Pakistan Forest Department, the project is helping to bring stakeholders together and create better policies and institutions for managing these resources. One key way is through the establishment and strengthening of CFPCCs. Comprised of local community members, relevant private-sector and civil-society representatives, and officially recognized by the local forest department, CFPCCs are directly responsible for protecting, managing – and with TRI Pakistan project help – restoring the chilgoza forests in which they reside. And because the CFPCCs are



PAKISTAN

Project updates and achievements to date

- Establishment of 14 CFPCCs supporting local management, protection, and restoration of threatened chilgoza pine forest.
- Chilgoza processing units established at Chilas and Zhob; processing more than 50 tonnes in 2020.
- 2 420 ha of degraded chilgoza forest sites in Pakistan identified for restoration using assisted natural regeneration. Agroforestry to restore degraded agricultural land underway on 332 ha.
- 1 200 energy efficient stoves and gasifiers procured to help reduce fuelwood consumption. These will be distributed to the local community in 2021.
- Framework for community livelihood small grants developed, prioritizing community-identified projects. The project expects to support 14 projects before June 2021.

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Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

made up of local community members and leaders, they benefit from having the strong support of community members whose cooperation is essential to the success of any new management and restoration plans.

To date, 14 CFPCCs have been established with project support. While CFPCC-designed management and restoration plans vary somewhat among localities, they share a number of common elements. These include a limited and defined harvesting period for chilgoza pine cones determined each harvest season; prohibitions on the cutting of branches and collection of unripe cones; and leaving five to six trees per hectare undisturbed as a seed source for natural regeneration on degraded sites. The rules are displayed prominently in each village. In addition, the CFPCC rules stipulate that only local people may collect cones, and that no one can bring labour from outside the village to organize large-scale commercial harvesting. Together with enhanced enforcement and fines for violations, the rules help ensure that a substantial portion of the benefits from harvesting chilgoza pine nuts flow to the local community, and that all community members are afforded an equal opportunity to collect cones.

Another area of focus for the project is in strengthening the capacity of local post-harvest processors of chilgoza pine nuts, to enable community members to capture a greater share of the value-added revenue generated from the sale of pine nuts. Historically, much of the post-processing has been done in larger commercial centres away from the chilgoza pine forest communities. If local communities are able to capture a larger share of pine nut value chain revenue, it will provide an even stronger incentive to sustainably manage and protect these resources over the long term.

While the project has been in operation for just over two years, there are already signs of progress. Recent surveys conducted by FAO, forest department staff and local communities, show that new management policies put into effect by CFPCCs have allowed for natural regeneration to take place in a number of degraded sites. On average, sites under new management and protection were found to have nearly twice as many chilgoza seedlings per hectare compared with sites lacking similar management regimes.

As the project enters its third year, the focus will be on establishing and strengthening additional CFPCCs, and in capturing and sharing the experiences of this new approach to managing and restoring the chilgoza pine forests. It is anticipated that experiences and recommendations emerging from this work will be relevant not only for chilgoza pine forests – which extend into neighbouring Himalayan countries – but also for other degraded areas and regions of the world that face similar challenges of over-exploitation and poor management.

Community members are reviewing the chilgoza rules and regulations agreed by the community. Photo credit: © TRI Pakistan.

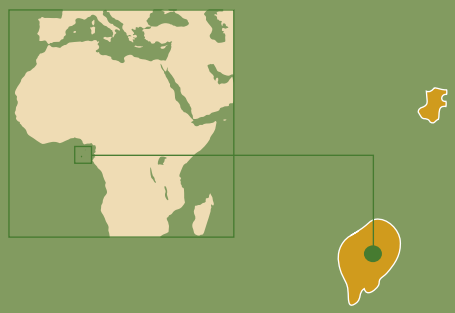
Chilgoza cone. Photo credit: © TRI Pakistan.

Bridging the gaps between the banking sector and restoration investment opportunities in Sao Tome and Principe

One of the key barriers to expanded and scaled-up implementation of FLR is a lack of financing and credit for businesses, including smallholder farmers, to invest in FLR. Many businesses that have seen their farms, wood-lots, landholdings and supply chains impacted by land degradation, would like very much to invest in restoration measures that offer a potentially good return. However, access to capital for restoration can be hard to come by for a number of reasons. These include unfamiliarity with FLR within the banking sector, uncertainty on how to price risk and compensate investors for the multiple benefits – including public benefits – that come from FLR, and lack of even basic lines of credit for many smallholders.

The TRI project in STP is working to address these barriers. Together with the Association of Banks (ASB), an umbrella institution representing the five largest private banks that operate in the country, and the public Central Bank of STP, the project is helping advance an ambitious programme of work encompassing changes to national policy, along with capacity building and development of tailored financial

The TRI STP project – includes delivery of a training programme on FLR fundamentals and financing of FLR.



SAO TOME AND PRINCIPE

Project updates and achievements to date

- Participatory mapping of FLR opportunities within four priority landscapes covering approximately one-third of the country finalized.
- Target communities and business opportunities identified where support will be provided for the development of value chains based on sustainable harvesting and use of NTFPs.
- Memorandum of Understanding signed with the Association of Banks of STP and Central Bank of STP to improve the financial framework for FLR and sustainable forest management.
- Policy- and capacity-development assessments finalized and project ready to move to operational phase in both areas of work.

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instruments for the financial sector. The goal is to help spur new flows of public and private finance into restoration and sustainable land management in STP.

With the ASB, work is focused on developing and implementing microcredit schemes targeting the agroforestry sector, as well as on developing a code of conduct for environmentally sound investments, which ASB-member financial institutions would commit to following. Support from TRI – both from the global support project and from the TRI STP project – includes delivery of a training programme on FLR fundamentals and financing of FLR. Training will be delivered through a series of webinars in 2021, as well as through direct guided support from financial experts on the development of financial products. The TRI STP project will also benefit from a new UNEP Finance Initiative programme called the Restoration Factory, whereby local entrepreneurs and cooperatives will receive targeted training and support from finance experts in developing "bankable" investment proposals for FLR and sustainable forest management initiatives.

On the public policy front, the TRI STP project is supporting the Central Bank of STP, which recently launched a "Strategy of Financial Inclusion" to facilitate broader access to the financial services and products that can stimulate investments into sustainable enterprises. The TRI STP project and its main partner, the Directorate of Forests and Biodiversity, were both recognized by the Central Bank as strategic partners and invited to help shape the "Green Finance" component of the strategy. Over the next several months, the project will work with the Central Bank to: (1) help develop a policy for below-market rate financing of "green products," including reforestation, production and processing of forest products, energy, waste, and more, targeted towards individuals and micro and small businesses; (2) create products and financial services targeted towards activities that are environmentally sustainable and that contribute to the national strategy on adaptation to climate change; and (3) improve the policy and regulatory framework to stimulate startups in the fields of clean technology and the sustainable management of natural resources.

While benefiting from strong political support for FLR, the challenges are significant. A recent survey of smallholders by the Central Bank found that some 78 percent of respondents lacked sufficient income to even qualify for a bank account under present rules. And at a time when investments are needed to strengthen resiliency of natural systems to climate-change impacts, climate change is putting additional risks and stressors on those same investments, thereby creating a perverse feedback loop that prevents needed investments in FLR from going forward.

Despite these challenges, the agroforestry business environment in STP is dynamic and vibrant, and the demand for credit by private agroforestry sector operators is high, especially among micro, small, and medium businesses unable to access credit under the current conditions. Moreover, the challenges in accessing and mobilizing finance for FLR found in STP are common to many parts of the world where restoration needs are greatest. As such, success in STP should have impacts far beyond the shores of this West African island nation.

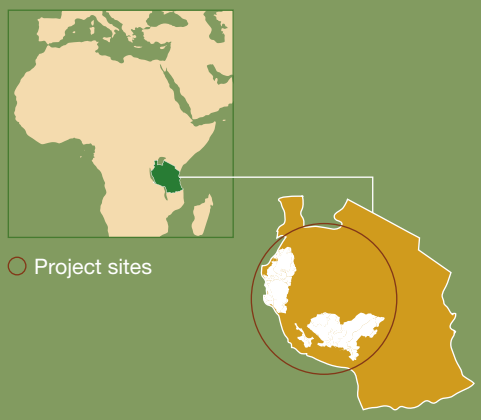
Búzio d'Obo snail (*Archachatina bicarinata*) endemic to STP and consumed locally. The snail depends upon healthy forests for its survival. Photo credit: © Marco Pagliani/FAO.

Restoring and protecting the United Republic of Tanzania's rich natural heritage

The United Republic of Tanzania's land, and the amazing assortment of plants and animals found there, is the heart and soul of the country. One of the world's most biodiverse nations, the United Republic of Tanzania is the twelfth richest nation in terms of bird species despite accounting for just over half of 1 percent of the earth's total land area. Among African nations, the United Republic of Tanzania is home to more than one-third of the continent's plant species and is the fourth richest country in terms of fauna, with a fifth of all large mammal species. And the country boasts one of the highest levels of forest cover in eastern and southern Africa.

All of this makes the nation and the health of its landscapes essential for efforts to conserve and protect global biodiversity. And this biodiversity is a key pillar supporting the livelihoods of millions of Tanzanians – with wildlife-driven tourism contributing around USD 2 billion annually to the national economy and providing over 12 percent of employment. Healthy landscapes are also vital to the country's agricultural industry, which generates a quarter of gross domestic product and provides employment for 80 percent of all Tanzanians.

However, land degradation resulting from a number of challenges including overgrazing, over-exploitation and deforestation and poor agricultural practices, and driven by underlying factors including rapid population growth, insecure land tenure and poverty, are threatening this foundation. More than half of the nation's total land area is affected by land degradation, and 16 percent is highly degraded.[11] This land degradation is estimated



TANZANIA

Project updates and achievements to date

- Consultations on partnerships and arrangements were concluded and enabled the signature of legal instruments in preparation for implementation from 2021.
- Consultations between the Vice President's Office and communities and local authorities in the Mbarali and Wanging'ombe District of the Great Ruaha landscape served to inform priority needs and actions at the grassroot level as part of preparations for implementation.
- Key government agencies from the forestry and environment sector trained in FLR through an online course.

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11 **Kirui, O.K.** 2016. Economics of Land Degradation and Improvement in Tanzania and Malawi. In: E. Nkonya, A. Mirzabaev & J. von Braun, eds. *Economics of Land Degradation and Improvement – A Global Assessment for Sustainable Development*. Cham, Switzerland, Springer. https://doi.org/10.1007/978-3-319-19168-3_20

to be costing the United Republic of Tanzania losses of over USD 10.2 billion per year, with declines in agricultural productivity, food insecurity, water pollution, desertification, increased migration and land conflicts, and loss of biodiversity.

The TRI project in the United Republic of Tanzania seeks to address these challenges. It will support government and civil-society partners in adopting and integrating sustainable landscape restoration and land management principles and practices within national policies, regulations and strategies, while establishing and operationalizing governance and regulatory structures to effectively support these efforts. The goals are ambitious. In total, TRI Tanzania aims to bring 110 000 ha under restoration while achieving direct emission reductions of 2.2 million tCO2eq through sustainable landscape restoration and land management activities.

Throughout 2020, while completing the requirements to enable the formal start of the project, key government agencies have launched consultations with local communities, sector ministries and agencies, as well as international and local NGOs and civil society organizations, as they gear up for implementation.

TRI Tanzania will focus its efforts on the degraded and deforested landscapes of the Great Ruaha, Lake Rukwa and Malagarasi Basins. The project team has identified and engaged with relevant government-led projects and programmes working in these same areas, to support harmonization of work and ensure the learning and best practice exchange needed to bring restoration efforts to scale.

While the project has not yet formally started, the participation of TRI Tanzania project team members in all global training opportunities provided by the TRI Programme has enabled team members to learn from programme partners, and become familiar with the range of policy, implementation and monitoring tools available to support restoration and sustainable land management.

In the second half of 2020, TRI held consultations with local communities and authorities in the Great Ruaha landscape to raise awareness of the project and its opportunities and take fuller stock of current needs. These local stakeholders are strongly supportive of restoration efforts and, with support from the district councils, have started organizing themselves in grassroots groups, which will be key players in addressing the severe degradation of the basin due to unsustainable agricultural practices.

There are high expectations at both national and local government levels for TRI and its contribution towards helping to halt and reverse land degradation. With the Government of the United Republic of Tanzania firmly committed to a paradigm shift in land management that can deliver demonstrable, tangible benefits to local communities, hopes are high that TRI will help the United Republic of Tanzania retain its place as a nation rich in nature, found nowhere else in the world.

Cattle drinking water from the Great Ruaha River, the United Republic of Tanzania. Photo credit: © Vice President's Office.

TRI Programme partners with Yale University to build capacity on forest landscape restoration for its projects in Africa

Forest landscape restoration, involves a wide range of interventions and approaches, from assisted natural regeneration to agroforestry systems; from improved management of pastureland to conservation and protection of high-priority natural areas, and much, much more. Incentivizing, financing and supporting these efforts often involves changes in policies and regulatory frameworks, together with new partnerships and organizations to coordinate, support and monitor the work.

For many practitioners and stakeholders, these FLR approaches and concepts are not well known or understood – a point that was emphasized by several TRI project teams attending the TRI global inception workshop in February 2019. The need to reach TRI stakeholders and efficiently and effectively build their understanding and capacity on FLR has led to a collaboration between the TRI Programme and Yale University's ELTI.

A pioneer in developing and strengthening learning on environmental topics, ELTI draws upon the resources and convening power of one of the world's top universities to support practitioners and communities throughout the world in conserving, restoring, and better managing natural resources. For the collaboration with TRI, partners were faced with the challenge of needing to present a training programme in two languages (English and French), for participants at different starting levels of understanding FLR and working in countries where the local environment and institutional and social context can be quite different.

Partners settled upon a six-week online course format, with different modules covering different topics of interest and need. Development of the course and course material was facilitated through several online exchanges organized with the national teams and ELTI partners, and with contributions from TRI agencies.

Thirty TRI Programme stakeholders enrolled in the course that ran from September to November 2020. Participants came from the TRI African countries of Cameroon, CAR, DRC, Kenya, the United Republic of Tanzania and STP. They included 11 representatives from national ministries and institutions in TRI partnering countries, project

> *"The course has helped strengthen my understanding of the theory and techniques that underlie successful restoration."*
>
> Nzale Ndjala Sumaili - Ministry of Environment and Sustainable Development in DRC

A snapshot of one of the weekly Zoom sessions of the online ELTI/TRI course on FLR fundamentals. Photo credit: © Karin Bucht, Yale University.

management team members, and participants from local NGOs partnering with TRI projects in CAR, DRC and STP.

The online course covered a wide range of topics relevant to successful implementation and scaling-up of FLR. These included introduction to the concepts of ecology, disturbance and regeneration potential; sociocultural and political aspects of restoration; best practices and approaches for FLR; how to successfully integrate FLR and production activities; introduction to ROAM; how to monitor and evaluate restoration projects; and how to finance FLR.

The course enabled participants to advance their knowledge through a combination of presentations, discussions, readings and case studies, while an online platform allowed participants to share their experiences and project ideas with ELTI facilitators or guest speakers through weekly live sessions.

Each week the participants were given assignments to complete, including a final project that provided course participants with an opportunity to reflect on the theory presented during the course and link it up with the particular needs of their respective projects. The response from course participants was overwhelmingly positive, with participants particularly appreciative of the quality of the instruction and the hands-on approach to learning.

Nzale Ndjala Sumaili from the Ministry of Environment and Sustainable Development in DRC remarked, "*this course has gradually enhanced my capacities on FLR and it is impacting my daily work.*" Camille Jepang from IUCN's West Africa office, found the course "*super interesting and useful to apply in the framework of the different ongoing projects.*" And Joshua Mutunga from Nature Kenya thanked the organizers, saying that, "*the course will positively impact his work and life.*"

Looking ahead

Several participants expressed interest and need for additional case studies, videos and other learning materials on FLR from Africa, including the countries and regions where they are working. This further highlights the need for TRI to capture and document project experiences and lessons learned and share these widely within the restoration community. The UN Decade on Ecosystem Restoration provides a good opportunity for these TRI experiences to be taken up and acted upon to further support FLR.

The course material will remain accessible to all project participants for up to a year. In addition, FAO is presently exploring the possibility of organizing another online FLR course with ELTI in 2021, targeted towards young people in Sub-Saharan Africa and their contribution and needs in supporting the restoration movement.

Policy influencing under The Restoration Initiative

Experience has shown that for FLR to be successful, it needs to be supported by a policy and governance environment that incentivizes and facilitates the implementation of FLR.[12] An enabling policy environment translates into robust and coherent policy frameworks and governance arrangements, allowing for a participatory, inclusive and equitable land-use management. Policies can also eliminate barriers to investment and mobilize public and private funding. A coherent policy environment can make the difference between successful FLR versus attempts that do not advance beyond the idea stage.

While ultimately in the hands of national and local policymakers and key stakeholders, the TRI Programme and its constituent national projects are working to improve the enabling policy environment in TRI countries through targeted policy influencing. Work is centred around three desired changes: raising awareness, generating political will[13] and triggering policy action.

Work on these types of changes happen concurrently or in stages responding to the aspects that are identified as bottlenecks to scale up FLR. In some cases, stakeholders may be aware of the issue at hand – for example, a need to improve land and resource management to address social, economic and environmental issues – but their willingness to act is not yet present. In other cases, the willingness of decision-makers exists but there is a challenge to bring on board cross-sectoral support to implement ambitious changes. TRI countries face different realities which, in turn, call for tailored strategies to influence policy change. This article highlights some of the key strategies used by TRI projects working together with country partners, as well as noteworthy achievements in 2020.

12 https://portals.iucn.org/library/sites/library/files/documents/2020-045-En.pdf

13 Political will is the commitment to take action on an issue or support a policy solution, knowing that the willing actor has the power and means to achieve or play a key role to achieve the expected outcome. Bonn, Germany, IPBES Secretariat.

Raising awareness

Raising awareness is the first level of influence, where FLR is internalized by stakeholders as a feasible solution to the challenges to human well-being brought by forest and land degradation and deforestation. To date, several TRI project teams have designed awareness-raising strategies focused on knowledge generation and the production of written materials to be used in communication campaigns targeting communities, decision-makers and potential partners. The strategy is to offer strong evidence and examples of how FLR can help address several pressing challenges including food and energy insecurity, environmental vulnerability and poverty alleviation.

Examples of TRI project work to raise awareness on the benefits and needs for FLR

In **Cameroon**, where TRI is piloting restoration approaches using indigenous and fast-growing bamboo, policy-influencing activities include raising awareness about the benefits of investing in bamboo and other NTFPs for local economies and the environment. Three workshops in three different landscapes were held in 2020, reaching around 150 local stakeholders. In addition, informal conversations with community members, including vulnerable groups, through field work continues to be an important means for increasing awareness about the benefits and need for restoration, reaching through this effort around 500 people last year.

Moreover, **TRI Cameroon** is working to scale up the implementation of restoration activities by equipping government and stakeholders with practical knowledge for the establishment of NTFP plantations. In that effort, 1 600 brochures packed with practical information were distributed and 500 copies of an agroforestry notebook were handed to the ministry to be used by forest local administrators for the registration and follow-up of agroforestry plantations.

In **Kenya**'s ASAL landscapes, where restoration is promoted as part of the development of NTFP businesses producing gum resins, honey and agave, as well as through ecotourism, extensive awareness and advocacy activities are being carried out on opportunities for investment in NTFPs to spur government action regarding future resource mobilization (via private–public partnerships or by the creation of new policies).

In **STP**, TRI is raising awareness through dialogues with national-level decision-makers and technical government officers and distribution of policy and technical papers on FLR, as a stepping-stone towards building a vision where sustainable forest management and FLR are key components of the country's development agenda. This is in line with the project's focus on enhancing national commitment to FLR and establishing coordination platforms and frameworks for the long-term implementation of FLR.

Bitter gum from indigenous aloe species. Photo credit: © TRI Kenya.

Generating political will

Although increasing awareness among stakeholders of the benefits and need for FLR is the first stepping-stone of policy influencing, achieving awareness does not necessarily translate into policy action. To bring about change, it is necessary to also **generate political will** from the government, communities and the private sector. This willingness to act upon the problems that FLR can address, with the authority and means that each actor possesses, materializes through elements such as strong leadership, expressions of support from decision-makers, partnerships and coalitions to contribute to action, as well as the willingness of communities, civil society and the private sector to play a role towards change. One of the recurring strategies of TRI country teams is to develop policy analysis, policy-relevant research and proposals to improve the existing regulatory frameworks as tools to use in their advocacy efforts to bring FLR to the centre of the policy agenda and generate support from government officials and decision-makers at all levels. Also, TRI teams are working hand in hand with stakeholders and leaders to equip them to be long-term advocates of FLR, by facilitating dialogues, partnerships and developing or strengthening coalitions. Many TRI country teams are investing efforts in building round tables, committees or groups as inter-institutional coordination mechanisms for FLR, which have proven to be a very effective governance tool to improve results at the planning and implementation stages of FLR.

Examples of TRI project work to generate political will to put FLR into practice

TRI Kenya working to help restore the **Tana Delta** is focusing on a systemic overhaul of land-use governance and planning. The project team is working with local communities and minority groups and has supported the formation of 45 Village Natural Resource and Land-Use Committees in the delta area, mobilizing leaders and empowering communities to contribute to land-use decisions based on traditional knowledge. Other community-based bodies are also part of these processes, such as Community Forest Associations and Water Resource Users Associations, which have been brought up as part of the network of action for the restoration of the delta. The vision is that community-level actors are empowered and equipped to make decisions on land, water and resource management, placing FLR as the main strategy.

In **STP**, the TRI team facilitated the creation in 2019 of the National Platform for Forestry and Landscape Restoration as a strategic coordination mechanism for different types of actors to discuss a way forward for the enhancement of the current policy framework to enable FLR implementation, the identification of priority areas for FLR and strategies to mainstream FLR activities in the country. The platform is comprised of over 30 people from key government institutions, the consultative committee on NTFPs, the private sector, civil society, local communities and project partners organized into four working groups focused on mapping and restoration, communication and information, and policies and legislation. Several issues were discussed over a number of meetings in 2020, including ways of connecting the platform with the overarching National Commission for the Environment.

Triggering policy action

Policy action is the most visible part of policy change and is the result of understanding the context, actors, interests and forces, building around a strategy with clear final goals and intermediate outcomes, which is continuously adapted to respond to dynamic situations. In that sense, policy change, more often than not, is a result of a multi-layered and long-term process. The more tangible example of policy action is where new policy instruments[14] are adopted, improved or modified – as a result of identifying gaps that need to be addressed through policy reform. Action can also be seen through established coalitions, networks or coordination mechanisms of government sectors and non-governmental actors mobilizing towards policy change and improvement of governance aspects. Thirdly, policy action can be the existing long-term involvement and mobilization of stakeholders to continue the scaling-up of impacts. TRI project teams are working alongside governments at all levels in the development of new FLR policies, strategies and action plans or through the development of regulatory-level tools that help the implementation of FLR and sustainable management practices at the landscape level. TRI country teams are also investing efforts to influence action by existing coalitions and community groups as a result of engagement to carry out a long-term FLR action plan for the benefit of all stakeholders.

Examples of TRI project work that translates into policy action

In **Kenya ASAL**, a priority is the county-level application of the existing national FLR implementation plan into county-level government documents to respond to the specific context in these areas and facilitate implementation.

In **Cameroon**, TRI is working to strengthen the regulatory framework to promote FLR activities, and in 2020 the government issued a decision laying down modalities for the creation, management, exploitation and transport of harvested NTFPs. This decision together with the agroforestry notebook for the registration and administrative follow-up of private NTFP plantations recognize the contribution of the plantation owners to FLR, climate-change mitigation, poverty reduction and food security in Cameroon.

TRI working in **Kenya's Tana Delta** supported KFS in producing the National Forest Landscape Restoration Action Plan. This plan is now ready for publication for nation-wide public consultations. To implement the plan at the Tana Delta level, work is underway with the Tana River and Lamu County Governments to produce County Forest Policies and County Forest Landscape Restoration Action Plans. These policy, legal and strategic instruments will define the county restoration targets and delivery mechanisms. The National Environment Management Authority is also working on developing Tana River and Lamu County Environment Action Plans. All these will complement the Land-Use Plan for the Tana Delta approved in 2015 and provide the legal underpinning for continued FLR.

Inter-institutional coordination mechanisms in operation are expected to bring about change, aligning actions from all actors involved and facilitating the adoption of cross-sectoral policies to ensure long-term implementation of FLR. For example, **Kenya's Tana Delta** has subnational and local natural resource inter-institutional and stakeholder coordination mechanisms that bring together stakeholders and have improved coordination significantly, including the Tana Delta Planning and Advisory Committee, the Tana Delta ICCA Management Committee, the Tana Delta Conservation Network, 45 VNRLUCs, the Land and Water Use Committee, several CFAs, the Tana Natural Resource Forum and the County Environment Committee.

14 Policy instruments are understood in a general way and include legislation and regulation at the national, regional and local level.

Looking ahead

TRI project teams have been carrying out several actions to influence policy even with the challenges brought by the global pandemic. The global discourse of building back better and one-health is expected to generate new impetus for advancing ecosystem restoration as a recovery response to the pandemic across countries. TRI teams are equipped and ready to accelerate policy impacts in the coming three years.

The villages of the Baiote ethnic group, built in the heart of the mangroves, are very vulnerable to sea level rise, and the global pandemic has slowed restoration efforts. Photo credit: © IBAP/ En Haut.

The Restoration Initiative in 2021 and beyond

The ongoing Covid-19 pandemic forced TRI to delay and reconfigure some activities; however, our commitment to the urgent task of supporting and scaling up restoration remains steadfast. As the stories and highlights in this TRI 2020 Year in Review show, the work of TRI projects and partners can already be seen in tangible results on the ground, and we look forward to reporting and sharing lessons learned from the programme's early stages and building on these successes as the programme reaches its mid-term.

The disruption caused by the global pandemic led the global support team, after careful consideration and in consultation with in-country partners, to delay the organization of the third annual TRI global programme conference to the second semester of 2021, provided safety and health conditions improve and travel restrictions are lifted.

While unanticipated, this change has had a positive aspect for the programme, giving country participants additional time to develop the FLR finance mobilization objectives of their projects and be ready to receive support from the UNEP Finance Initiative's Restoration Factory. This six-month mentorship programme will support TRI project partners in developing restoration-based investment proposals and businesses, and includes direct, live, online training from a team of financial experts. The first cohort of the Restoration Factory, which includes 9 of 11 TRI country projects, begins in April 2021.

Going forward, TRI partners seek to fully capitalize on the launch of the UN Decade on Ecosystem Restoration and the momentum generated by the IUCN World Conservation Congress and the Convention on Biological Diversity to reinforce our early successes and nurture the emergence of a fully-fledged restoration finance ecosystem of experts, innovators and capital providers. To this end, the third TRI annual conference is now envisioned as a platform to showcase ideas and people, to foster connections between restoration developers and investors and to galvanize the movement to build back better.

We are confident that these efforts and those of others will lead to a wave of restoration-linked businesses and business models that people around the world can adapt, replicate and scale.

Together, TRI partners will continue to monitor the impacts of Covid-19 on TRI projects going forward. Adaptive measures will be one of several key areas of focus for the mid-term evaluations that are set to take place in 2021 for many projects. We look forward to the work ahead.

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